



# **Developing a Delaware Technical Reference Manual (TRM)**

April 13, 2021

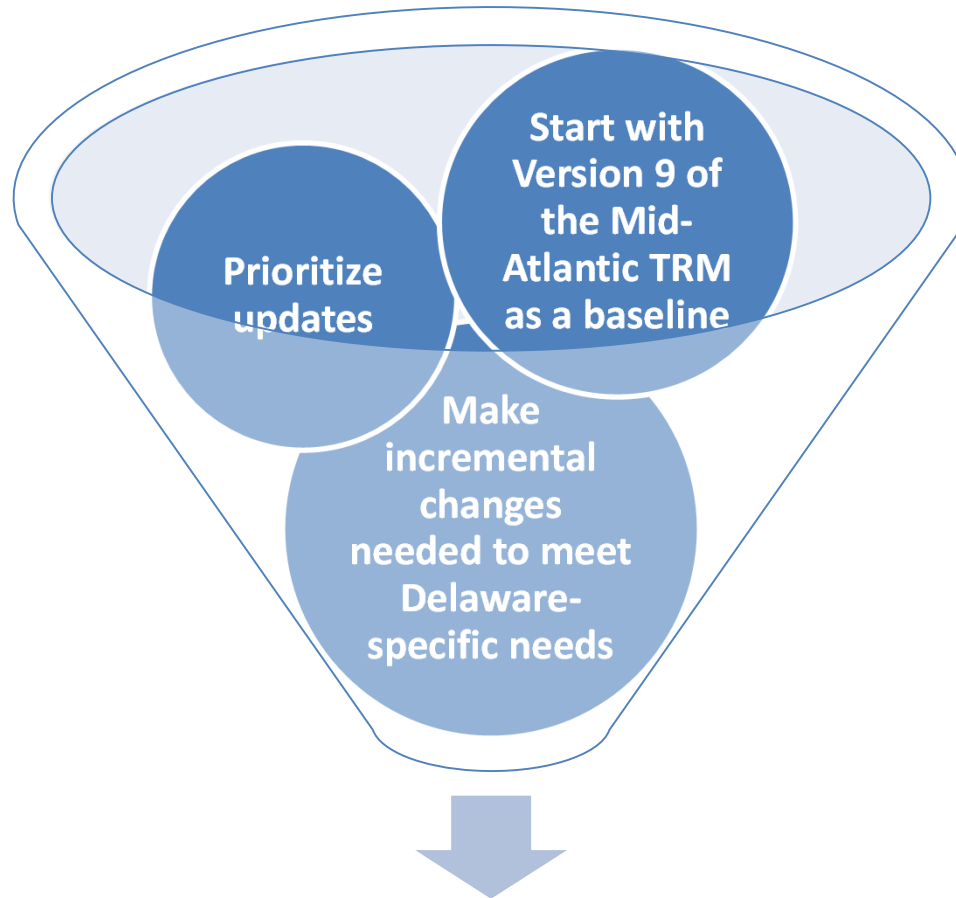


# Overview

- TRMs allow PAs and other stakeholders to calculate deemed efficiency savings from measures in a clear and consistent way
  - Deemed savings are preestablished values for common energy efficiency measures based on reputable data and analysis
- It's important to regularly update the assumptions and measures included
- With its departure from the Mid-Atlantic TRM, a new TRM approach in Delaware was necessary



# Overall approach



**Optimal energy worked with EcoMetric Consulting to complete this work**



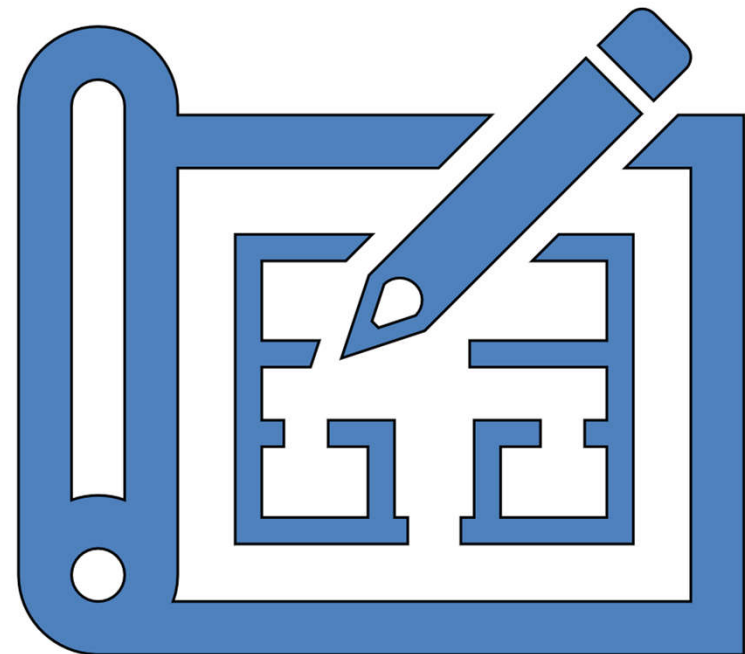
# Task 1: Update Prioritization/Selection

- Optimal reached out to individual PAs to determine what measures/updates to prioritize
- We also worked with EcoMetric to consider adding additional changes



## Task 2: Develop Draft TRM Updates

- Optimal took the lead on reviewing and developing updated assumptions
- EcoMetric reviewed updates and provided comments
- Optimal edited document based on feedback from EcoMetric



# Updates Overview

## Summary of Major updates

Uses Mid-Atlantic TRM v9 as  
foundation for DE TRM

- Updated relevant baselines to reflect current DE energy code (i.e., 2018 IECC)
- Updated selected measures to reflect new federal standards
- Updated references to ENERGY STAR/CEE specifications to reflect current versions
- Added explanatory text regarding status of EISA efficacy “backstop” and GSL definition change.
- Updated illustrative examples to reflect updated parameters and DE assumptions
- Eliminated non-DE content and extraneous introductory and appendices material



# DE Energy Codes

- As of Dec. 11, 2020, effective energy code in DE is based on 2018 International Energy Conservation Code and the ASHRAE 90.1-2016 Energy Standard for Buildings Except Low Rise Buildings.
- Previous energy codes based on 2012 IECC and ASHRAE 90.1-2010.
- Primarily impacts new constructions baselines and certain “time of sale” baselines.

## Measures Impacted

- Res. Packaged Terminal Air Conditioners (PTAC) and Heat Pumps (PTHP)
- C&I Advanced Lighting Design – Commercial
- C&I Unitary HVAC Systems
- C&I Electric Chillers
- C&I Smart Thermostat
- C&I Variable Refrigerant Flow (VRF) Heat Pump Systems
- C&I Boiler Reset and Cut-Out Controls



# Federal Equipment and Appliance Standards

- Select measures baselines updated for new federal equipment and appliance standards.
- Update was not exhaustive with respect to federal standards updates but focused on standards for the most common measures or those with highest impact.
- Considered lower priority due to regulatory uncertainty.

## Measures Impacted

- Res. Central Furnace Efficient Fan Motor
- Res. HE Gas Boiler
- Res. Ground Source Heat Pumps
- Res. High Efficiency Gas Water Heater





# ENERGY STAR/CEE Specifications

- Many measures reference ENERGY STAR and/or CEE specifications as the definition of the efficient equipment.
- In select cases, measures updated to reflect current specifications.
- Updates not exhaustive with respect to ENERGY STAR/CEE, focus on those with highest impacts.

## Measures Impacted

- Res. High Efficiency Gas Water Heater
- Res. Clothes Washer
- Res. Clothes Washer, Early Replacement
- C&I Variable Refrigerant Flow (VRF) Heat Pump Systems



# EISA “Backstop” and GSL Definition

The 2007 Energy Independence and Security Act (EISA) included efficacy “backstop” required that all general service lamps sold meet or exceed an efficacy requirement of 45 lumens per watt by 2020.

In 2019, the DOE retracted the definition expansion and effectively eliminated the efficacy backstop.



In 2017, the definition of general service lamps was broadened by DOE to effectively cover all common lamp types.

- The new rule faces legal challenges and new administration may revisit
- Given regulatory uncertainty, TRM measures continue to assume baselines with the broadened GSL definition and EISA efficacy backstop

# Task 3: Revised and Final Product Delivery

A draft version has been shared with the EEAC EM&V committee for their feedback



Any additional changes will be discussed with DNREC



An updated version will be shared with the EM&V committee prior to the next meeting



The final TRM will be published on DNREC's website



The updated TRM should be used starting January 1, 2022 for program year 2022 reporting purposes and for all forward-looking planning





# Thank you

## Questions?

